

## ABSTRACT OF THE DISCLOSURE

A RAID controller with decentralized transaction processor controllers and a decentralized cache allows for unlimited scalability in a networked storage system. Virtualization is provided through a map-and-forward function in which a virtual volume is mapped to its logical volumes at the controller level. Any controller in the system can map a request from any host port to any logical storage element. The network storage system provides a controller/virtualizer architecture for providing mirror consistency in a virtual storage environment in which different hosts may read or write to the same logical block address simultaneously. Each storage controller or virtualization engine controls access to a specific set of storage elements. One virtualizer engine is the coordinator, and monitors all write requests and looks for potential data conflicts. The coordinator alleviates conflicts by holding specific requests in a queue until execution of those request causes no data inconsistencies or cache incoherencies.